

We claim:

1. A method to remove ras-mediated neoplastic cells from a cellular composition suspected of containing such neoplastic cells, which method comprises contacting the cellular composition with reovirus under conditions which results in oncolysis of the ras-mediated neoplastic cells.
2. The method of claim 1 wherein the cellular composition comprises hematopoietic stem cells.
3. The method of claim 2 wherein the hematopoietic stem cells have been harvested from bone marrow.
4. The method of claim 2 wherein the hematopoietic stem cells have been harvested from blood.
5. The method of claim 1 wherein the cellular composition comprises a tissue, an organ or any portion of a tissue or an organ.
6. The method of claim 5 wherein the tissue or organ is selected from the group consisting of liver, kidney, heart, cornea, skin, lung, pancreatic islet cells, and whole blood.
7. The method of claim 5 wherein the tissue, organ or portion of the tissue or organ is useful for transplantation.
8. The method of claim 1 wherein the cellular composition comprises cultured cells, semen or eggs.

PCT/US2002/018610

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9. The method of claim 1 wherein the reovirus is a mammalian reovirus.
10. The method of claim 1 wherein the reovirus is an avian reovirus.
- 5 11. The method of claim 9 wherein the mammalian reovirus is a human reovirus.
12. The method of claim 9 wherein the mammalian reovirus is serotype 3 virus.
13. The method of claim 12 wherein the serotype 3 virus is the Dearing strain.
- 10 14. The method of claim 1 further comprising the step of freezing and storing the reovirus-treated composition in a solution containing DMSO.
15. The method of claim 1 further comprising the step of treating the reovirus-treated composition with anti-reovirus antibodies and complements.
16. The method of claim 1 further comprising the steps of subjecting the treated cells to a gradient which separates the cells from the reovirus and collecting the layer which contains cells.
- 20 17. A method of preparing a cellular composition for transplantation into a recipient, comprising the steps of:
(a) selecting a cellular composition for transplantation; and
(b) contacting the composition with a reovirus under conditions which result in oncolysis of ras-mediated neoplastic cells.
- 25 18. The method of claim 17 wherein said transplantation is autologous.

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19. The method of claim 17, further comprising the step of administering to the transplant recipient at least one substance selected from the group consisting of an anti-reovirus antibody and/or an immune system stimulating agent.
- 5 20. A method of reducing a risk of recurrence of tumor due to transplantation of autologous hematopoietic stem cell suspected of containing ras-mediated neoplastic cells, comprising harvesting from a subject to receive the transplant a cellular composition which comprises hematopoietic stem cells, contacting the cellular composition with a reovirus under conditions which result in oncolysis of ras-mediated neoplastic cells, and introducing the reovirus-treated composition back into the subject.
- 10 21. A cellular composition prepared according to the method of claim 1.
- 15 22. The composition of claim 21 which is used in transplantation.
- 20 23. The composition of claim 22 wherein said transplantation is autologous.
24. The composition of claim 23 wherein said composition comprises hematopoietic stem cells.
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